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ABSTRACT

This publication introduces the research, development and technology curriculum at West Sylvan Middle School (Portland, Oregon) and presents the syllabus with selected activities and worksheets. Sample research units on South America, Mexico and Central America are outlined. Other materials include: student outline guide of questions; index worksheet; resource guide; note-taking procedure for research purposes; outline format; expository writing assessment guide; outline of integration across the curriculum; student evaluation; independent research process; worksheet for using the Internet; Internet independent activity; Dynix system worksheet; Infotrac worksheet; outline of integration and articulation of research, development and technology across the curriculum; the State of Oregon's performance based assessment guide; and a draft of West Sylvan Middle School's performance guide. (AEF)

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ED 402 906

RESEARCH, DEVELOPMENT, AND TECHNOLOGY

PRESENTED BY
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An Introduction to Research, Development and Technology at West Sylvan Middle School

West Sylvan Middle School is located in Portland, Oregon. The administration, staff, students, and parent community recognizes that with the rapid pace of current technology we need to focus on the future needs of our students. Our students use technology to access the wealth of information and resources available to them within and outside the building. It is our commitment to students that they are lifelong learners and informed adults for the 21st century.

Our goals include:

*To teach students and staff how computers and related technology are tools for their lifelong education, growth, and development.

*To teach students to learn how to selectively choose and evaluate resources, analyze information, and reorganize it into a usable form.

*To teach students to develop a usable approach to technology.

*To teach students the issues and ethics regarding the use of technology.

*Make connections within a global, rather that just a local community.

*To teach teachers computer skills and classroom strategies for using technology with students.

*To utilize technology as a tool for individualized learning.

The program to meet our goals began 1995-96 with a sixth grade research and development class. All sixth graders learned computer word processing skills, media center technology for accessing information and resources, the use of CD-ROM, the internet, and the Dynix system. Research was coordinated with the language arts and social studies curriculum so the technology skills were applied to current topics of study.

As a result of 1996 bond measure, West Sylvan MS has two computer labs. One is primarily a word processing lab using older Macintosh computers. This current year (1996-97) all students will have access to the same type of computer. The first year students learned word processing on Tandy laptops, Apple II's, as well as, Macintosh computers. The other lab is located off the library and has 15 computers which are linked to the internet system. A high speed cable has also been installed to the Media Center.

The Media Center which serves as the hub for West Sylvan's technology is linked to Dynix (automated card catalog) which allows students and staff to access materials from a variety of sources. The media specialist, Doni Stewart, currently works with staff, teaching them to use the technology and how to apply it to their current curriculum. Also, many of the staff have acted as mentors and support to their colleagues.

The proposed program plan for West Sylvan will include the network of the building so all classrooms and office computers will work off a file server located in the Media Center. In addition to the two labs, the purchase of additional computers and printers for each classroom to be connected to the building network. We plan to develop home/school connections such as: accessing research information through the Media Center, E-mail communication with teachers, E-mail opportunities for students, school and community information sharing.

As a result of the West Sylvan MS building goals and with the support of Mr. Peter Hamilton (Principal), the PTSA, and a teaching team consisting of Allison Mudrick, Cindy Roby (classroom teachers), and Doni Stewart (Media Specialist) an integrated, across the curriculum program which can be articulated within the building has been developed.

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RESEARCH, DEVELOPMENT AND TECHNOLOGY SYLLABUS

1996-1997

Instructors: Allison Mudrick, Cindy Roby, and Doni Stewart

Goal #1: Students will be able to use technology in appropriate ways and apply the basic capabilities of the technology to create a product.

Students will :

1. Word process on the Macintosh, Apple IIe and Tandy lap top.
2. Develope accuracy and speed dependent upon student ability.
3. Access information from Infotrac.
4. Apply Infotrac skills to a research project.
5. Use the Dynix to access information from the West Sylvan Media Center and other libraries.
6. Use the CD Rom programs to access information.
7. Appropriately use the Internet to access information.

Goal #2: Students will be learning techniques to take notes from the following resources:

1. textbooks
2. films
3. lecture
4. reference books
5. newspapers
6. magazines
7. electronic resources

Goal #3: Students are provided instruction, integrated into the curriculum, in the skill needed to identify an information need, find evaluate and organize the information and use the information effectively.

Students will:

1. write questions related to a topic that they choose to research.
2. access information using resources to take notes.
3. develop outlines and apply their note taking techniques to a research project based on their interest.
4. summarize and interpret information from a varitey of resources.
5. write paragraphs with topic sentences, supporting details, and transitions or concluding sentences.
6. write a bibliography using a format, that will list resources used for the research project.
7. word process the research project.

SOUTH AMERICA RESEARCH UNIT

During this quarter, you will be researching and writing a paper on one country in South America. It is very important that you keep up on all the work and turn work in on the due dates in order to complete this unit by the end of the quarter.

The research requirements for this unit are the following:

1. Using the library to do research with
   - -encyclopedias
   - -reference books
   - -an atlas
   - -an almanac
   - -Infotrac Computer system
   - -Dynix system to find books
   - -Internet
2. Research in the classroom to research with
   - -CD Rom programs
   - -audiovisual films

Once your research reading is done, you will need to take notes on note cards and list the information from each resource on a colored note card (to be used to make your bibliography).

You will turn in your sets of note cards each week for a grade.

When your note cards have been returned, you will need to complete an outline on the South American country. You turn in the outline for a grade.

Once you have completed the outline and it has been graded, you will then write the research paper, following the outline as a guide.

You will turn in for a final grade: cover sheet, outline, research paper, and bibliography. The report will be word processed.

GRADING

The grade requirements are:

for a C - Cover sheet - word processed
4 sections of the outline researched
Note cards for those sections turned in
Outline completed and word processed
Research paper written in your own words and word processed
Bibliography complete in correct form and word processed
ALL WORK TURNED IN ON TIME!

for a B - Cover sheet - word processed
6 sections of the outline researched
Note cards for those sections turned in
Outline completed and word processed
Research paper written in your own words and word processed
Bibliography complete in correct form and word processed
ALL WORK TURNED IN ON TIME!

for an A - Cover sheet - word processed
8 sections of the outline researched
Note cards for those sections turned in
Outline completed and word processed
Research paper written in your own words and word processed
Bibliography complete in correct form and word processed
ALL WORK TURNED IN ON TIME!

NOTE: Any student with an IEP will complete a modified assignment consistent with the goals of the IEP.

MEXICO AND CENTRAL AMERICA RESEARCH PAPER

During this quarter, you will be researching and writing a paper on Mexico or one country in Central America. It is very important that you keep up on all work and turn work in on the due dates in order to complete this unit by the end of the quarter. All work for this paper will be done in class.

The research requirements for this unit are the following:

1. Using the library to do research with
   - -encyclopedias
   - -reference books
   - -an atlas
   - -an almanac
   - -Infotrac Computer system
   - -Dynix system to find books
   - -Internet
2. Work in the classroom to research with
   - -CD Rom programs
   - -audiovisual films

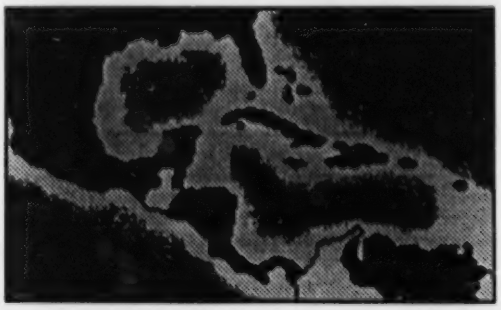
Once your research reading is done, you will need to take notes on note cards and list the information from each resource on a colored note card (to be used to make your bibliography).

You will turn in your sets of note cards on each due date for a grade.

When your note cards have been completed, you will complete an outline on the country you have researched. You will turn in the outline for a grade.

Once you have completed the outline and it has been graded, you will then write the research paper, following the outline as a guide.

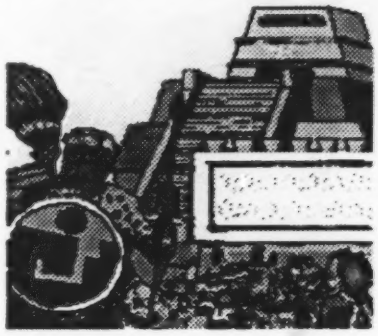
You will turn in for a final grade: cover sheet, outline, research paper, and bibliography. All work will be word processed. Misspellings will affect your grade, so edit all work carefully.



GRADING

You will determine the grade that you want for this unit. You will begin by completing all the requirements for a C. Once your work has been graded by your teacher, you can go on to work for a B. Once all that work has been graded by your teacher, you can go on to work for an A.

All work must be completed by the due dates, so if your goal is an A, you must use your class time wisely.



The grade requirements are:

for a C - Cover sheet
4 sections of the outline researched
Note cards for those sections completed and turned in
Outline completed for 4 sections and turned in
Research paper following outline written in your own words
Bibliography complete in correct form
ALL WORK TURNED IN ON TIME!

****

for a B - Cover sheet
All work for a C grade completed and graded by teacher
2 more sections of the outline researched (total of 6)
Outline completed for 6 sections and turned in
Research paper following outline written in your own words
Bibliography complete in correct form
ALL WORK TURNED IN ON TIME!

****

for an A- Cover sheet
All work for a C and a B grade completed and graded by teacher
2 more sections of the outline researched (total of 8)
Outline completed for 8 sections and turned in
Research paper following outline written in your own words
Bibliography complete in correct form
ALL WORK TURNED IN ON TIME!

NOTE: Any student with an IEP will complete a modified assignment consistent with the goals of the IEP.

Research, Development and Technology

Social Studies Theme

Questions to answer using the basic outline format

I. Natural Resources
- A. What are the natural resources?
- B. How are the natural resources being used and conserved?

II. Climate
- A. What is the average January temperature?
- B. What is the average July temperature?
- C. What is the average precipitation?

III. History
- A. What is one important event in this country's history?
- B. How did this event affect the country as it is today?
- C. Who has been an important person in this country?

IV. Economics
- A. What does the country raise for food?
- B. What are the main industries of the country?
- C. What are the imports and exports of the country and who do they trade with?
- D. What types of jobs do the people have?

V. Government
- A. What form of government does the country have?
- B. Who is the current leader of this country?
- C. What are the political parties?

VI. People
- A. What is the life span of men and women?
- B. What is the infant mortality rate in this country?
- C. What are the religions?
- D. What languages are spoken?
- E. What is the literacy rate?
- F. What is the education system like?

VII. Culture
- A. What are the national holidays?
- B. Does the country have any specific customs?
- C. Identify a person who has contributed to the arts of the country (painter, dancer, writer, poet, actor, actress, musician, singer).

VIII. Problems
- A. What is a problem facing this country today?
- B. What is being done to solve it?
- C. What would you do to help solve this problem?

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Index Worksheet

Title:_____

Author:_____
Last name First name

Date:_____

Subject:_____

Sub-topic and pages:_____

Sub-topic and pages:_____

Sub-topic and pages:_____

What do you want to know about the sub-topics?

Question 1:_____

Answer:_____ _____

_____

_____

Question 2:_____

_____

_____

Question 3:_____

_____

_____

Answers are to be brief, do not use complete sentences or copy word for word from your reference source.

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Resource Guide

Name_____ Period_____
Teacher_____

Country being researched _____

I. Natural Resources
Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

II. Climate
Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

III. History
Definition:_____
_____
_____

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SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

IV. Economics

Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

V. Government

Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

VI. People

Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

VII. Culture

Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

VIII. Problems

Definition:_____
_____
_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

SOURCE:_____
Pages:_____

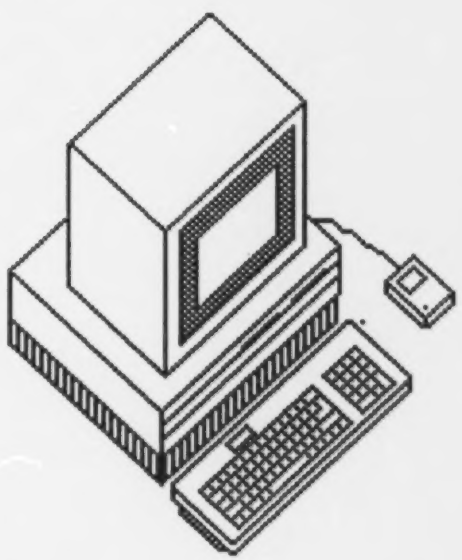
OTHER SOURCES:

Infotrac - Find and print an article on your country, any topic.
Limit the length of the article to save paper and time.

Internet - Search for your country.
Print a copy of the search paper.

Write down the Internet address:

http_____



Note-taking for Research Purposes

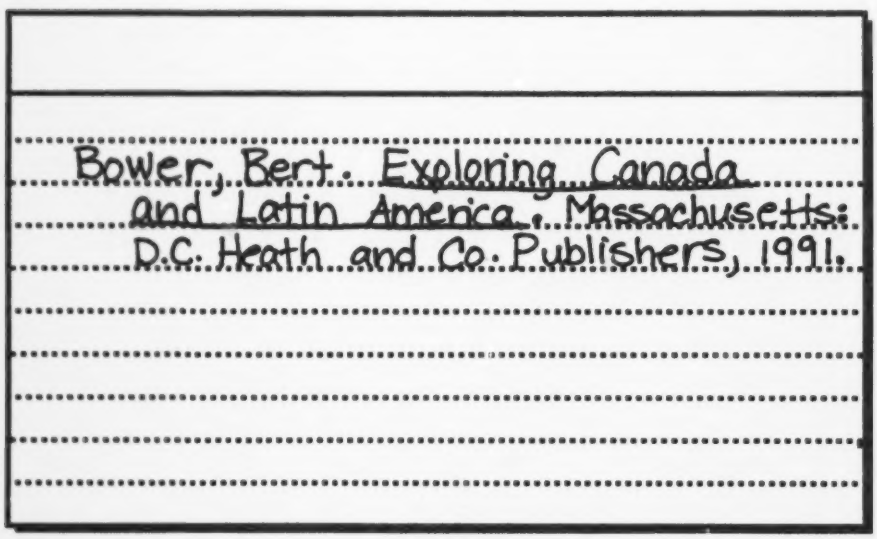
You will be gathering information from a variety of resources. This information will be interpreted and used to write your research paper. It is important that you keep track of the resources that you use, to validate your research.

After you have a resource that contains some data that you want to use in your paper, you need to write down the resource in the correct form. This information will be listed in a bibliography at the end of your paper. Therefore, you will write the information in the same format, so that writing the bibliography will be simply putting the information in alphabetical order.

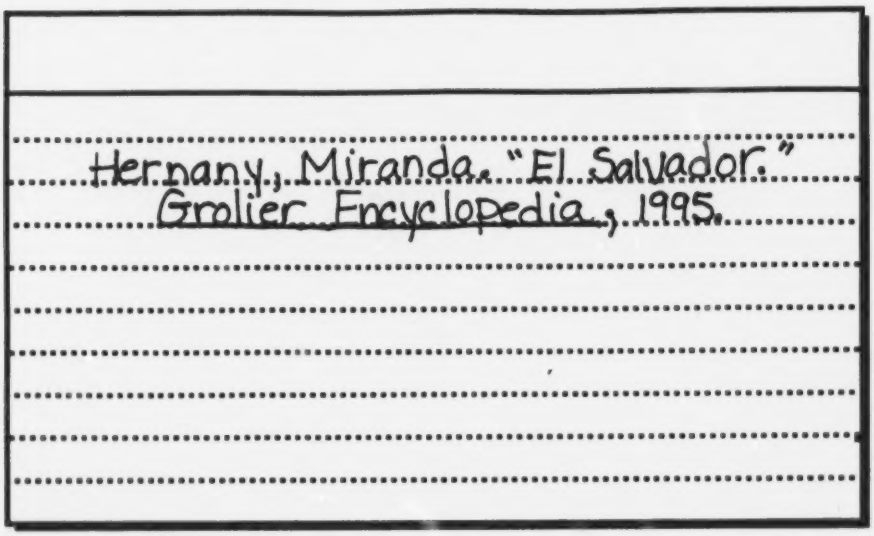
You will be taking notes on note cards. A colored note card (resource card) will be used for each resource you use and the information taken will follow on white note cards. All note cards will be numbered to keep these notes in order.

The following samples show how to do the colored resource cards for a variety of resources:

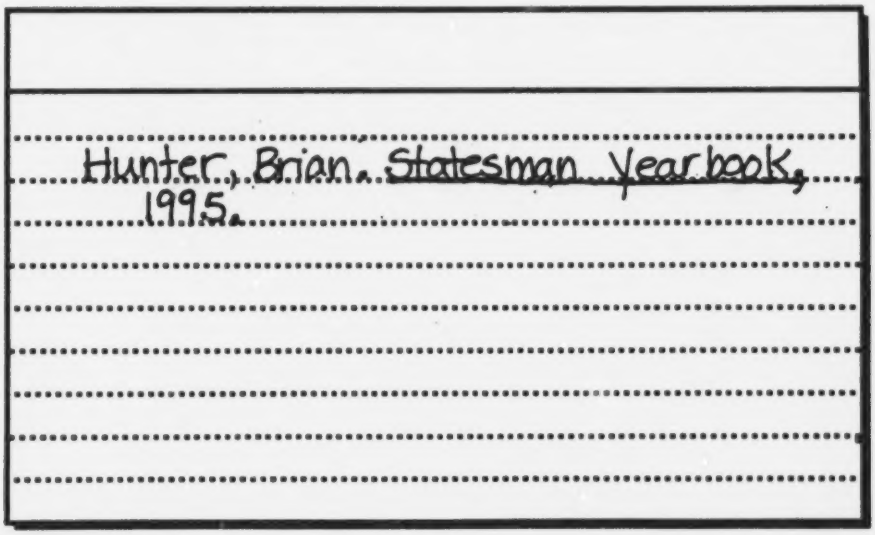
Resource card for a textbook:



Resource card for an encyclopedia:



Resource card for an reference book:



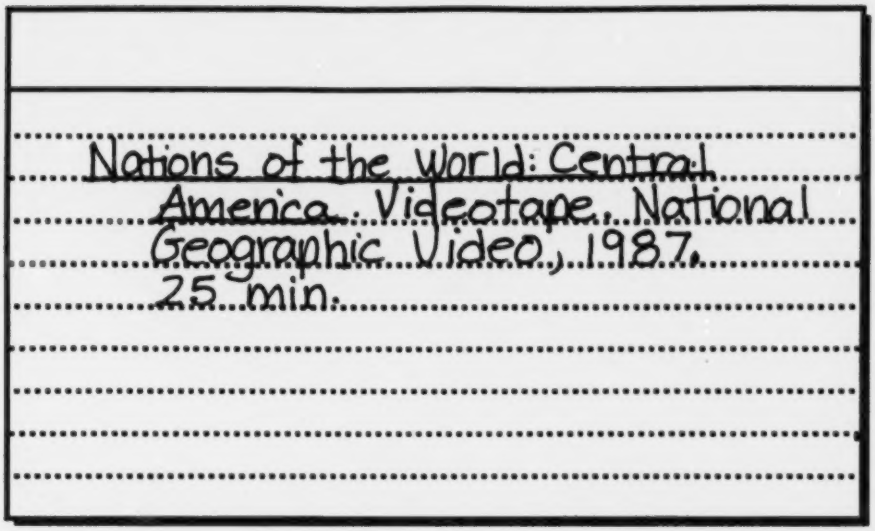
Resource card for a CD Rom:

"El Salvador." Encarta, 1995.

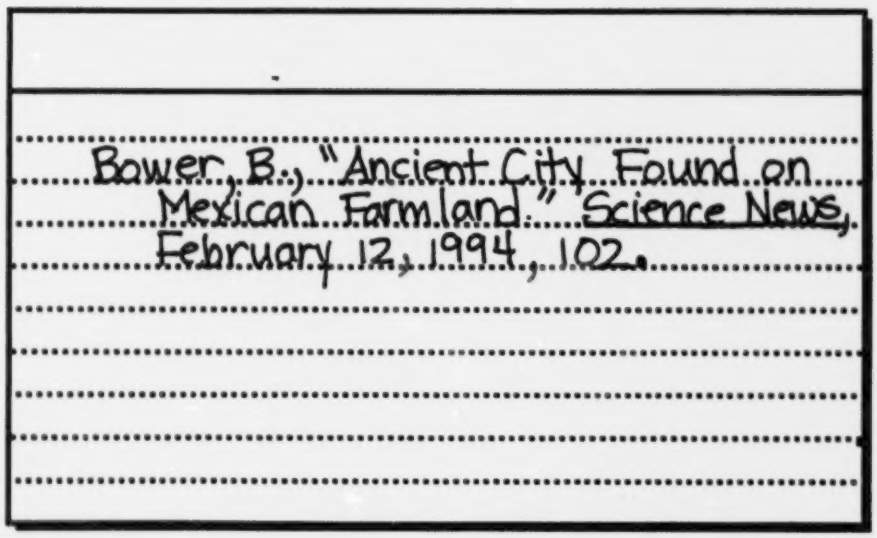
Resource card for Internet:

Villegas, Baltazar. "The Guatemalan Experience. http://ric.edu.psu.lov, 1995.

Resource card for a film, videotape:



Resource card for a periodical:



Resource card for a newspaper:

Cormier, Bill. "Mexican debtors demonstrate for more government help." The Oregonian. 1 October 1996, sec. A: 5.

Resource card for a lecturer:

Kabi, Chelsea Ali. Travel agent with "Pack Your Bags," Portland, Oregon, September 30, 1996.

Research, Development and Technology

Social Studies Outline Format

I. _____

A.

1.

2.

3.

B.

1.

2.

3.

II. _____

A.

1.

2.

B.

1.

2.

C.

1.

2.

3.

III. _____

A.

1.

2.

3.

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B.

1.

2.

3.

C.

1.

2.

3.

IV. _____

A.

1.

2.

3.

B.

1.

2.

3.

C.

1.

2.

3.

D.

1.

2.

3.

V. _____

A.

1.

2.

3.

B.

1.

2.

3.

C.

1.

2.

3.

VI. _____

A.

1.

2.

3.

B.

1.

2.

3.

C.

1.

2.

D.

1.

2.

3.

E.

1.

2.

3.

F.

1.

2.

3.

VII. _____

A.

1.

2.

3.

B.

1.

2.

3.

C.

1.

2.

3.

VIII. _____

A.

1.

2.

3.

B.

1.

2.

3.

C.

1.

2.

3.

RESEARCH AND DEVELOPMENT PROJECT
Expository Writing Assessment Guide

Name_____

Ideas and Content

1	2	3	4	5
No facts, little information		Few facts		Gives information, many facts

Paragraphs

1	2	3	4	5
Brief, skimpy paragraphs (outline just retyped)			Full paragraphs with many detail sentences	

Word Choice

1	2	3	4	5
Ordinary words used				Interesting words used

Sentence Fluency

1	2	3	4	5
Not read aloud easily				Easily read aloud

Conventions

1	2	3	4	5
Many mistakes		Some mistakes		Complete sentences!!

Total points _____

Total points possible - 25

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Integration Research, Development, and Technology Across the Curriculum

As students are working on their social studies research there are several activities which they could complete that would integrate and support the use of this information into other areas of study.

Math:
*Use data gathered from research for graphing
imports and exports
literacy rate
mortality
religions
languages of the country

Art:
* Share the information about an artist from their country and how the art reflects the people, culture, and social statements with students in their class.
*Create a project using an art form or media of the country.

Teen Life Skills:
*Find recipes from the country, prepare and share them.
*Make an original flag representing the country. Explain how and why the country's flag and the created flag are similar and different.
*Create a soft sculpture landscape of the country.

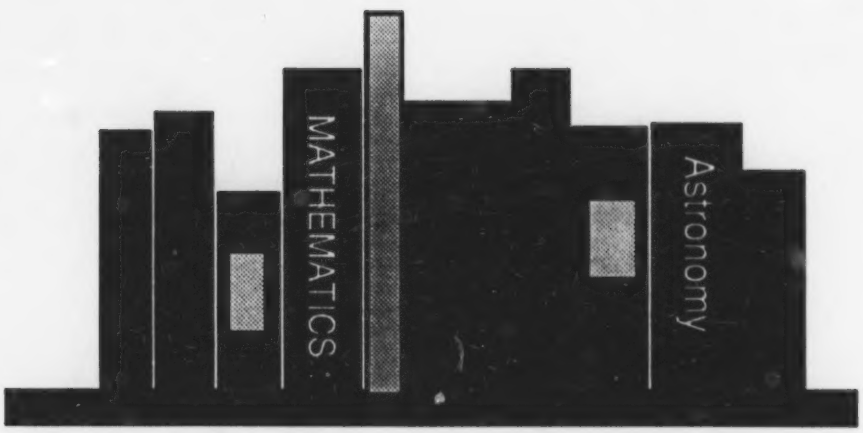
Science:
*Draw a map and label the natural regions and the resources.
*Identify an environmental problem that the country is encountering and write a solution for it.

Social Studies:
*Illustrate a time line for the historical dates in the history of the country.
*Share information with the class by putting together a bulletin board featuring the country or a topic the student researched.

Reading: *Read a story or folk tale from the country and share it with the class.

Writing:
*Write a folk tale based on a story or an event from the country's history and share it with the class.
*Write a national anthem for the country using the format and tune of "The Star Spangled Banner."
*Write a national anthem for the country using the tune of their national anthem.

Music:
*Listen to the music of the country and compare the rhythms and instruments to the music of the United States.
*Trace the origins of the music.
*Learn the words or music of a song and play and/or sing it before an audience.
*Locate a copy of the national anthem of the country and learn to sing and play it on an instrument.



Research, Development and Technology Class Evaluation

Please answer these questions honestly, to help your teacher evaluate this class for next year. **Your answers will not affect your grade in this class**.

1. I know what resources to use to do research. Yes No (circle one)
   If no, why? _____
   _____

2. I can complete note cards on a given topic. Yes No (circle one)
   If no, why? _____
   _____

3. I can write an outline using note cards. Yes No (circle one)
   If no, why? _____
   _____

4. I can write a report, in my words, using an outline and note cards.
   Yes No (circle one)
   If no, why? _____
   _____

5. I can write a bibliography correctly, using note cards.
   Yes No (circle one)
   If no, why? _____
   _____

6. Did you have enough time to complete all the work required for this project?
   Yes No (circle one)
   If no, why? _____
   _____

7. What skill(s) have you learned that you will use when doing a research project in the future? (circle all that apply)
   Note taking Outlining Bibliography Writing the paper
   Comments _____
   _____

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8. I can use the Infotrac computer independently. Yes No (circle one)
If no, why? _____

_____

9. I can use the Internet independently. Yes No (circle one)
If no, why? _____

_____

10. I can use the Dynix system independently. Yes No (circle one)
If no, why? _____

_____

11. What should next year's class keep from this year? _____

_____

_____

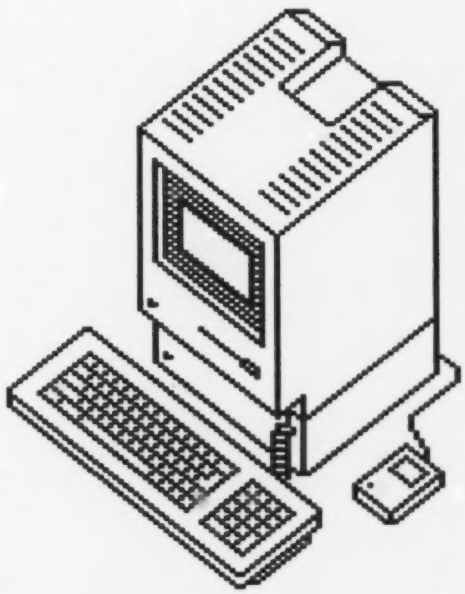
12. What should be changed for next year? _____

_____

_____

_____

Thank-you for your answers.



The Eight Steps of an Independent Research Process

1. **Identify your topic.**
   State your topic as a question (s). Identify the main concepts or keywords in your question.

2. **Find background information.**
   Look up your keywords in the indexes to the encyclopedia. Read articles in the encyclopedia to gain an awareness of your topic.

3. **Use the Dynix system to find books.**
   Use subject searching for a broad subject. Note the call number, author and title of the book and search the index for key words. When you pull the book from the shelf, scan the bibliography for additional sources.

4. **Use the InfoTrac to find magazine articles.**
   Use the InfoTrac to find citations, abstracts and full text articles on your subject. Note key words that are used in the articles that pertain to your topic.

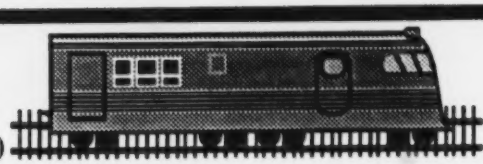
5. **Use the Internet.**
   Use Netscape to find out if there is more information on your topic. Be sure to keep track of your http addresses.

6. **Evaluate what you have found.**
   Try to evaluate the quality of the books, articles or internet sources you find. If you have found too many or too few sources, you may need to narrow or broaden your topic.

7. **Write your paper.**
   Using your notes and an outline from your research you will need to write your paper.

8. **Use the standard West Sylvan bibliography format.**
   Write a bibliography of all the resources you have used in your research.

Using the Internet (After direct instruction)



Student:_____

You will look at three popular ways to search the Internet and examine how each one retrieves information on Mexico.

Go to each search engine and search through the first four links. List the address of the link you found under each engine that has the most information.

YAHOO:

http://_____

LYCOS:

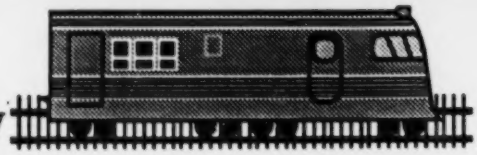
http://_____

WEB CRAWLER:

http://_____

West Sylvan Middle School, Portland, Oregon
Mudrick, Roby, and Stewart 1996

Independent Activity



Now that you have examined the three search engines, it is time for you to do a search of your own. Pick a topic **you are interested in or that you need to do a report/presentation for another class** and conduct a search using the three engines. Ask for **TEN** hits. Use the same term in each case and complete the following:

1. Topic:

2. Search term:

3. How many useful items did you view from each search engine?

YAHOO:_____

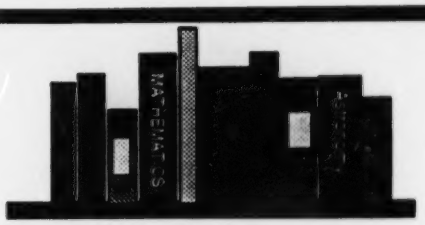
LYCOS:_____

WEBCRAWLER: _____

4. Which search engine provided the best information?

5. What is the **http**: address of the three most interesting and useful sites.

DYNIX SYSTEM



Now go to the **Dynix** system (on-line card catalog) and search for a book that is on your topic and answer the following:

1. Topic:_____

2. Search term:_____

3. How many books does the West Sylvan Library have on your topic? _____

4. Write the title and author of a book on your topic._____

_____

Now go to the Multnomah County Library system (in Dynix) and answer the following:

. Topic:_____

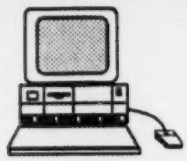
2. Search term:_____

3. How many books does Multnomah Public Library have on your subject?_____

4. Write the title and author of a book on your topic._____

_____

INFOTRAC



Using **InfoTrac**, find a magazine article on your topic. Answer the following:

1. Topic:_____

2. Search term:_____

3. How many articles are there under your topic?_____

4. Print the article that has the most information on your topic and attach it to this sheet.

Now go to the Multnomah County Library system and use the Magazines On-Line and answer the following:

1. Topic:_____

2. Search term:_____

3. How many articles are there under your topic?_____

Integration and Articulation of Research, Development and Technology Across the Curriculum

	Grade Six	Grades Seven and Eight
Computer	Operate a variety of computers Apple II, Macintosh, Tandy	Practice
	Open the hard drive	Practice
	Select appropriate software/program for task	Practice
	Format a disk	Practice
	Introduce the keyboard and finger placement	Maintain
	Develop accuracy and speed	Practice
Multimedia	Introduce Infotrac system	Practice
	Introduce Dynix system	Practice
	Introduce CD Rom	Practice
	Introduce Internet	Practice
		Introduce Home Page
Research	Introduce notetaking from a variety of resources using white 3"x5" cards * printed material (text and mechanical) * lecture * film	Practice
	Organize notes	Practice
	Introduce using an index and cross reference	Practice
	Introduce using bibliography entry cards using color 3"x5" cards	Practice
	Practice alphabetizing using the entry cards	Maintain
		Introduce footnotes
The Writing Process	Introduce writing topic sentences for an expository essay	Practice
	Practice writing supporting details for a topic sentence	Maintain
	Introduce writing an introductory paragraph for an expository essay	Practice
	Introduce writing a concluding paragraph	Practice
	Introduce writing transition sentences	Practice
	Introduce using notes to write a paragraph in the writer's own words	Practice
	Practice revising and editing	Maintain
	Practice word processing	Maintain

Certificate of Initial Mastery

"The Certificate of Initial Mastery shall be based on a series of performance-based assessments benchmarked to mastery levels approximately grades 3,5,8, and 10 including but not limited to work samples, tests and portfolios."

Oregon Educational Act for the 21st Century (HB 3565)

The Certificate of Initial Mastery Outcome for Technology: The student will use current technology, including computers, to process information and produce high quality products.

Students will use , develop and evaluate technology to gather, understand and manipulate materials, processes and information to solve problems. A technological competent student is able to:

* apply diverse technologies to store, access, process, create and communicate information needed to solve problems, satisfy personal needs and extend human capabilities.

* set up and maintain tools and equipment to produce high quality products.

* use a variety of tools, materials and equipment safely.

Technology Foundation Skill: use current technology, including computers, to process information and produce high quality products.

Scoring Guide
Rubric

Oregon Department of Education
Office of Assessment and Technology
August, 1994

Part 1: Operational Control and Use of Technology

6
* Technology is used in and innovative or nonstandard way to create a higher quality product.
* Technology tool is not only set-up correctly and used appropriately, but suggestions are provided for improvement in the procedure.
* Knowledge of maintenance procedures is demonstrated by superb maintenance of tools.
* Safety procedures are known, followed and student makes recommendations for improvement. The student assists others who are not working safely.
* Selects the most appropriate tool from what is available to create a high quality product.

5
* Technology is used in appropriate ways and applies many of the features to create a quality product.
* Technology tool is set - up correctly and used appropriately without assistance following established guidelines, which may be improved upon.
* Knowledge of maintenance procedures is known and tools are properly maintained.
* Safety procedures are known and followed without outside intervention.
* Selects a quality tool from what is available that is appropriate to create a quality product.

4
* Technology is used in appropriate ways and applies basic capabilities of the technology to create a product.
* Technology tool is set up correctly and used appropriately with minor assistance.
* Knowledge of maintenance procedures is known and tools are maintained, but some points may be overlooked.
* Safety procedures are known and followed with minor outside intervention.
* Selects an adequate tool from what is available and appropriate for creating a desired product.

3
* Technology is used but assistance is needed for the basic capabilities of the technology to create a product.
* Technology tool is set up and used appropriately, but requires some outside ssistance.
* Knowledge for maintenance is somewhat known and some tools are properly maintained.
* Safety procedures are known and followed with some outside intervention.
* Selects an appropriate tool from what is available to create the desired product, only with outside assistance.

2
* Technology was used to address the task but few of the capabilities of the technology were used to create the product.
* Some knowledge of maintenance procedures, but frequently does not maintain tools.
* Safety procedures are not adequately known resulting in proper use only after considerable intervention.
* Selects a less effective tool from what is available to create the desired product.

1
* Technology is used but not to benefit the creation of a quality product.
* Technology tool is tried by the student, but the required product cannot be produced.
* Lacks knowledge of maintenance procedures and usually omits maintenance tools.
* Safety procedure are not known and therefore not followed.
* Select a technology tool to assist in creating the desired product, that is inappropriate for the task or student is not able to operate.

Part 2: Issue Analysis and Resource Management

6
* Has well developed and rich understanding of technology tools, resources, and information to use in creating the product, solving problems, satisfying personal needs or expands human capabilities.
* Selects and manipulates materials and information to use with technology that enhances the results.
* Uses the most appropriate technology to access information and resources.
* Solve all problems and answer questions associated with the use of technology and the product.

5
* Has significant knowledge of the technology tools, resources, and information to use.
* Selects and manipulates materials and information to use with technology that produces a result that meets the requirements of the project.
* Uses an appropriate technology to access information and resources without assistance.
* Was able to solve most problems and answer questions associated with the project.

4
* Has working knowledge of appropriate technology tools, resources and information to use.
* Selects and manipulates materials and information to use with technology that meets the requirement of the project with a few minor flaws.
* Was able to solve some of the problems and answer some of the questions associated with completing the project.

3
* Knows some knowledge of the technology tools, resources, and information to use.
* Selects and manipulates materials and information and resources, but with considerable assistance.
* Uses an appropriate technology to access information and resources, but with considerable assistance.
* Was able to solve most basic obstacles associated with completing the project.

2
* Knows few technology tools, resources, and information to use.
* Only partially able to select and manipulates materials and information to use with technology, even when assisted.
* Uses a lesser effective technology to access information and resources.
* Was able to solve only elementary obstacles associated with completing the project.

1
* Has limited knowledge of technology tools, resources, and information to use.
* Attempts to select and manipulate materials and information to use with technology, but is unsuccessful.
* Attempts to use technology to access information and resources, but is unsuccessful.
* Was able to solve few elementary obstacles associated with completing the project.

Part 3: Creation/Production of the Product

6
* Products are created with are of outstanding quality.
* Products exceed project specifications.
* Products demonstrate clear communications, presentation, and aesthetics for the intended audience.
* Products show great attention to and richness of detail.
* Products integrate the use of several technologies in many diverse settings.
* Flexibility in the use of the technology shows adaptation to current practices.
* Technology is used to its maximum advantage.
* Technology is used to promote consistency and quality control exceeding project specifications.
* Ethical and professional behavior is shown through appropriate citations in proper form, adherence, and ethics.

5
* The products created are of excellent quality.
* Products generally exceed project specifications.
* Products generally demonstrate clear communications, presentation and aesthetics for the intended audience.
* Products show significant attention to detail.
* Products integrate the use of more than one technology in diverse settings.

* Flexibility in the use of the technology shows adaptation to current practices.
* Technology is generally used to its maximum advantage.
* The technology generally is used to promote consistency and quality control exceeding project specifications.
* Ethical and professional behavior is shown through appropriate citations in proper form, copyright adherence, and ethics.

4
* The product created is of good quality.
* Products meet project specifications.
* Products generally demonstrate clear communications, presentation and aesthetics for the intended audience.
* Products show attention to detail.
* Products integrate the use of more that one technology in diverse settings.
* Technology often is used to its maximum advantage.
* The technology is used to promote consistence and quality control meeting project specifications.
* Ethical and professional behavior is shown through appropriate citations, copyright adherence, and ethics.

3
* The products created are usually of good quality.
* Products generally meet project specifications.
* Products are occasionally unclear in communications, presentation and aesthetics for the intended audience.
* Products occasionally show little attention to detail.
* Products integrate the used of more than one technology in more that one setting.
* Flexibility in the use of technology shows somewhat timely adaptation and is not too outdated.
* Technology sometimes is used to its maximum advantage.
* The technology is used to promote consistence and quality control generally meeting project specifications.
* Ethical and professional behavior is generally shown through appropriate citations, copyright adherence, and ethics.

2

* The product created is of questionable quality.
* Products occasionally meet project specifications.
* Products are frequently unclear in communications, presentation and aesthetics for the intended audience.
* Products show little attention to detail.
* The products integrate the use of only one technology in one setting.
* Flexibility of the use of technology shows a lack of timely adaptation.
* Technology seldom is used to its maximum advantage.
* The technology is used to promote consistency and quality control occasionally meeting project specifications.
* Ethical and professional behavior is occasionally shown through appropriate citations, copyright adherence, and ethics.

1

* If products were created they were of questionable quality.
* Products seldom meet project specifications.
* Products are often unclear in communications, presentation, and aesthetics for the intended audience.
* Products show almost no attention to detail.
* The products integrate the use of only one technology and not in diverse settings.
* Flexibility of the use of technology shows poor timely adaptation and seems like old technology is used.
* Technology used shows little attention to efficiency.
* The technology used to promote consistency and quality control seldom meets project specifications.
* Ethical and professional behavior is not shown or is inappropriately shown through lack of citations, copyright adherence, and ethics.

For additional information regarding assessment and Certificate of Initial Mastery contact:

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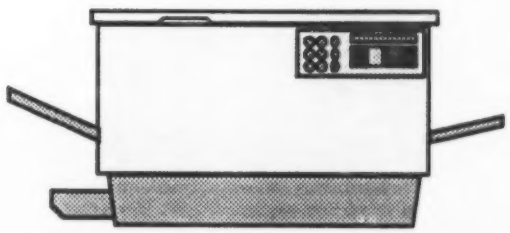
West Sylvan Performance Guide

Part One: Operational control and use of technology.

Goal: Student has mastered technology foundation skill when he/she can use current technology to retrive and process information to produce a quality project.

Word processing	In progess	Mastery		
- uses appropriate finger position - word processes accurately - words per minute				
Computer	Macintosh	Apple II	Tandy Laptop	IBM
- turn on the computer - open the hard drive - select appropriate software program - use the program tool menu				
Disk	In progress	Mastery		
- format a disk - save data to disk - recall a document - maintain the disk				
Printer	Stylewriter	ImageWriter	Epsen	Hew/Pack
- turn the printer on - load paper - maintain the printer (change the ribbon)				



Scoring criteria

6 - Innovative, nonstandard, highest quality
5 - Appropriate, above standard, high quality
4 - Appropriate, acceptable standard, good quality
3 - Appropriate, needs some assistance, acceptable quality
2 - Needs assistance in all areas
1 - is unable to use equipment or produce a product even with assistance

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